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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Schilling et al.
APPLICATION NO.: 09/708,775
FILING DATE: November 7, 2000
TITLE: System and Method for Mapping Textures onto Surfaces of
Computer-Generated Objects
EXAMINER: Thu Thao Havan
ART UNIT : 2672
ATTY. DKT. NO: PA1747US (as amended)

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AFTER FINAL RESPONSE

In response to the final Office Action mailed May 24, 2003, applicants provide the following remarks.

In the present application, claims 16-24, 29-33, 35-41, 45-53 and 54 are pending. The Examiner, in Paper Number 10, erroneously refers to the pendency of a claim 58 which is, in fact, claim 54. Claims 16-17, 19-24, 29-33, 35-41 and 45-53 are presently rejected. Claim 58 (which is, in fact, claim 54) is allowed. Claim 18 is objected to in the present Office Action.

Applicants respectfully traverse the Examiner's final rejections and contend no further amendments are necessary to bring the present application into condition for allowance. In view of the following remarks, Applicants respectfully request reconsideration and allowance of the application.

Rejection under 35 USC §102(e)

On page 2 of the final Office Action, the Examiner rejected claims 16-17, 19-24, and 29-33, 35-41 and 45-53 under 35 USC §102(e) as being unpatentable over U.S. patent number 6,292,194 to Powell, III (hereinafter *Powell*). Applicants respectfully traverse.

Independent claim 16 of the present application recites:

A method for mapping a texture onto a surface of a computer generated object represented by a plurality of pixels, comprising:

dividing a texture map into blocks, the texture map comprising a plurality of texels, each texel having an associated value;

determining two block values for each block, which block values are representative of the values of texels in the block;

compressing the texture map by **assigning to each texel one of the two block values associated with the block of which it is part;** and

mapping said compressed texture map onto the surface of the computer generated object.

(emphasis added).

In the Examiner's non-final rejection dated September 24, 2003, the Examiner asserted *Powell* anticipated claim 16 by teaching, in part, "assigning to each texel one of the two block values associated with the block." Specifically, the Examiner contended such disclosure to be found in *Powell* at column 22, line 36-column 25, line 30.

Applicants, in their review of *Powell*, found no such discussion and, in their amendment

of December 24, 2003, requested the Examiner, "clarify by specifically pointing out the sections and presenting reasons as to why these sections of *Powell* anticipate claim 16."

In response to Applicants' request, the Examiner repeated the previous rejection *verbatim* and now refers to column 18, line 53-column 19, line 61 in addition to initially cited column 22, line 36-column 25, line 30 to support its previous assertion concerning "assigning to each texel one of the **two block values** associated with the block" (emphasis added). Applicants contend there is no such discussion in the newly identified section of *Powell*.

Column 18, line 53-column 19, line 61, in fact, discloses "[t]exture data from the memory [being] **accessed and cached** in units called 'blocks.'" Column 18, lines 53-54 (emphasis added). This particular section of *Powell* is dedicated to "efficient **fetching and catching** [sic]" and not assignment of block values. Column 18, line 55 (emphasis added). Figure 10 of *Powell* is informative as to column 18, line 53-column 19, line 61 wherein it illustrates "one embodiment for accessing these blocks of texture data." Column 18, lines 58-59. Further evidencing this particular section's failure to disclose assignment of block values is the fact that the discussion recites a particular embodiment having "solve[d] the latency problem by buffering pixel data from the rasterizer 417, including texture data requests, in a texture reference data queue 418." Column 18, lines 60-62. The embodiment taught by *Powell* thereby allows "the rendering process [to] run at full speed." Column 18, line 65-66. There is no mention of assignment of block values.

The teachings of *Powell* in column 19 fare no better in teaching said assignment of block values as the "[d]ata flow in the system illustrated in FIG. 10" is disclosed in detail. Column 19, line 3. That flow comprises: set-up for rasterization (column 19, lines 4-10); generating pixel data (column 19, lines 11-14); buffering the data (column 19, lines 14-15); and fetching and reading the buffered data (column 19, lines 33-41) to "reduce memory accesses" and "bandwidth required to perform high quality texture filtering because the latency in retrieving a texture block is incurred only once in computing an image." Column 19, line 43; column 19, lines 47-49.

The portion of column 19 identified by the Examiner as teaching assignment of block values concludes not with a discussion of assigning but "a hold-off mechanism to prevent from overwriting texture blocks still needed in the texture filter unit in the tiler." Column 19, lines 50-60.

The Examiner's repeated cursory reference to column 22, line 36-column 25, line 30 is no more informative in determining whether *Powell* teaches assignment of block values. This section of *Powell* is concerned with texture cache control 391 which "ensures that the required texture blocks will be in the texture cache 402 when needed." Column 22, lines 36-37. The texture cache control does so by "buffer[ing] read requests for texture data blocks to the shared memory system," "arbitrat[ing] access to the shared memory system" and "includ[ing] a buffer for buffering data from memory." Column 22, lines 38-42.

As the Examiner has failed to provide evidence of *Powell* teaching **assignment of block values** as required by claim 16, *Powell* cannot anticipate the present application under 35 U.S.C. § 102(e). Asserting a claim is anticipated under 35 U.S.C. § 102 requires a demonstration of, *inter alia*, identity of invention. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760 (Fed.Cir. 1983). Identity of invention, in turn, requires a showing "that **each element** of the claim in issue is found, either expressly or under the principles of inherency, in a **single prior art reference**." *Minnesota Mining & Mfg. Co. v. Johnson & Johnson*, 976 F.2d 1559 (Fed.Cir. 1992) (emphasis added). Those elements are not present in *Powell*. Claims 17-23 and 29-33, being dependent upon claim 16, are not anticipated for *at least* the reasons set forth above.

On page 6 of the final Office Action, the Examiner rejected independent claims 24 and 35 asserting "the limitation [of those claims to be] identical to claim 16" and, therefore, "are treated with respect to grounds as set forth for claim 16." Applicants traverse for *at least* the same reasons as discussed in claim 16. Claims 36-41 and 45-53 are dependent upon claim 35 and are not anticipated for *at least* the reasons set forth with regard to claim 16.

Furthermore, claim 24 recites, *inter alia*, 'dedicated arithmetic means,' the alleged anticipation of which—as it pertains to *Powell*—has not been addressed by the Examiner. Additionally, claim 35 teaches, *inter alia*, an 'output port' coupled to a 'trilinear interpolator' coupled to a 'decompression unit,' the alleged anticipation of which—as it pertains to *Powell*—has not been evidenced by the Examiner.

Allowable Subject Matter

On page 7 of the final Office Action, the Examiner indicated claims 18 and 58 are allowed. As noted above, applicants believe the Examiner means to refer to claim 54 as being allowable. Applicants note, however, that claim 18 is dependent upon rejected base claim 16. Applicants contend that the rejection with regard to claim 16 is overcome and claim 18 is also allowable.

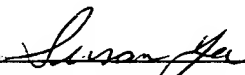
Conclusion

Based on the foregoing remarks, Applicants believe that the objections and rejections in the final Office Action of March 24, 2004 are fully overcome and that the application is in condition for allowance. If the Examiner has questions regarding the application, the Examiner is invited to contact Applicants' undersigned representative.

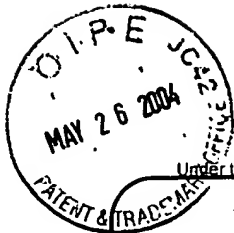
Respectfully submitted,
Andreas Schilling et al.

May 24, 2004

By:



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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/708,775	
	Filing Date	November 7, 2000	
	First Named Inventor	Andreas Schilling	
	Art Unit	2672	
	Examiner Name	Thu Thao Havan	
Total Number of Pages in This Submission	6	Attorney Docket Number	PA1747US (as amended)

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Date	May 24, 2004		

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